

§ 1065.715

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§ 1065.715 Natural gas.

(a) Natural gas for testing must meet the specifications in the following table:

TABLE 1 OF § 1065.715—TEST FUEL SPECIFICATIONS FOR NATURAL GAS

Item	Value ¹
1. Methane, CH ₄	Minimum, 0.87 mol/mol.
2. Ethane, C ₂ H ₆	Maximum, 0.055 mol/mol.
3. Propane, C ₃ H ₈	Maximum, 0.012 mol/mol.
4. Butane, C ₄ H ₁₀	Maximum, 0.0035 mol/mol.
5. Pentane, C ₅ H ₁₂	Maximum, 0.0013 mol/mol.
6. C ₆ and higher	Maximum, 0.001 mol/mol.
7. Oxygen	Maximum, 0.001 mol/mol.
8. Inert gases (sum of CO ₂ and N ₂)	Maximum, 0.051 mol/mol.

¹ All parameters are based on the reference procedures in ASTM D 1945–03 (incorporated by reference in § 1065.1010). See § 1065.701(d) for other allowed procedures.

(b) At ambient conditions, natural gas must have a distinctive odor detectable down to a concentration in air not more than one-fifth the lower flammable limit.

EFFECTIVE DATE NOTE: At 73 FR 37342, June 30, 2008, § 1065.715 was revised, effective July

7, 2008. For the convenience of the user, the revised text is set forth as follows:

§ 1065.715 Natural gas.

(a) Except as specified in paragraph (b) of this section, natural gas for testing must meet the specifications in the following table:

TABLE 1 OF § 1065.715.—TEST FUEL SPECIFICATIONS FOR NATURAL GAS

Item	Value ¹
Methane, CH ₄	Minimum, 0.87 mol/mol.
Ethane, C ₂ H ₆	Maximum, 0.055 mol/mol.
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Pentane, C ₅ H ₁₂	Maximum, 0.0013 mol/mol.
C ₆ and higher	Maximum, 0.001 mol/mol.
Oxygen	Maximum, 0.001 mol/mol.
Inert gases (sum of CO ₂ and N ₂)	Maximum, 0.051 mol/mol.

¹ All parameters are based on the reference procedures in ASTM D1945–03 (incorporated by reference in § 1065.1010). See § 1065.701(d) for other allowed procedures.

(b) In certain cases you may use test fuel not meeting the specifications in paragraph (a) of this section, as follows:

(1) You may use fuel that your in-use engines normally use, such as pipeline natural gas.

(2) You may use fuel meeting alternate specifications if the standard-setting part allows it.

(3) You may ask for approval to use fuel that does not meet the specifications in paragraph (a) of this section, but only if using the fuel would not adversely affect your ability to demonstrate compliance with the applicable standards.

(c) When we conduct testing using natural gas, we will use fuel that meets the specifications in paragraph (a) of this section.

(d) At ambient conditions, natural gas must have a distinctive odor detectable down to a concentration in air not more than one-fifth the lower flammable limit.

§ 1065.720 Liquefied petroleum gas.

(a) Liquefied petroleum gas for testing must meet the specifications in the following table:

TABLE 1 OF § 1065.720—TEST FUEL SPECIFICATIONS FOR LIQUEFIED PETROLEUM GAS

Item	Value	Reference Procedure ¹
1. Propane, C ₃ H ₈	Minimum, 0.85 m ³ /m ³	ASTM D 2163–91
2. Vapor pressure at 38 °C	Maximum, 1400 kPa	ASTM D 1267–02 or 2598–02 ²

TABLE 1 OF § 1065.720—TEST FUEL SPECIFICATIONS FOR LIQUEFIED PETROLEUM GAS—Continued

Item	Value	Reference Procedure ¹
3. Volatility residue evaporated temperature, 35 °C.	Maximum, −38 °C	ASTM D 1837–02a
4. Butanes	Maximum, 0.05 m ³ /m ³	ASTM D 2163–91
5. Butenes	Maximum, 0.02 m ³ /m ³	ASTM D 2163–91
6. Pentenes and heavier	Maximum, 0.005 m ³ /m ³	ASTM D 2163–91
7. Propene	Maximum, 0.1 m ³ /m ³	ASTM D 2163–91
8. Residual matter (residue on evap. of 100) ml oil stain observ.).	Maximum, 0.05 ml pass ³	ASTM D 2158–04
9. Corrosion, copper strip	Maximum, No. 1	ASTM D 1838–03
10. Sulfur	Maximum, 80 mg/kg	ASTM D 2784–98
11. Moisture content	pass	ASTM D 2713–91

¹ All ASTM procedures are incorporated by reference in § 1065.1010. See § 1065.701(d) for other allowed procedures.

² If these two test methods yield different results, use the results from ASTM D 1267–02.

³ The test fuel must not yield a persistent oil ring when you add 0.3 ml of solvent residue mixture to a filter paper in 0.1 ml increments and examine it in daylight after two minutes.

(b) At ambient conditions, liquefied petroleum gas must have a distinctive odor detectable down to a concentration in air not more than one-fifth the lower flammable limit.

EFFECTIVE DATE NOTE: At 73 FR 37342, June 30, 2008, § 1065.720 was revised, effective July

7, 2008. For the convenience of the user, the revised text is set forth as follows:

§ 1065.720 Liquefied petroleum gas.

(a) Except as specified in paragraph (b) of this section, liquefied petroleum gas for testing must meet the specifications in the following table:

TABLE 1 OF § 1065.720.—TEST FUEL SPECIFICATIONS FOR LIQUEFIED PETROLEUM GAS

Item	Value	Reference procedure ¹
Propane, C ₃ H ₈	Minimum, 0.85 m ³ /m ³	ASTM D2163–05.
Vapor pressure at 38 °C	Maximum, 1400 kPa	ASTM D1267–02 or 2598–02 ² .
Volatility residue (evaporated temperature, 35 °C)	Maximum, −38 °C	ASTM D1837–02a.
Butanes	Maximum, 0.05 m ³ /m ³	ASTM D2163–05.
Butenes	Maximum, 0.02 m ³ /m ³	ASTM D2163–05.
Pentenes and heavier	Maximum, 0.005 m ³ /m ³	ASTM D2163–05.
Propene	Maximum, 0.1 m ³ /m ³	ASTM D2163–05.
Residual matter (residue on evap. of 100 ml oil stain observ.)	Maximum, 0.05 ml pass ³	ASTM D2158–05.
Corrosion, copper strip	Maximum, No. 1	ASTM D1838–07.
Sulfur	Maximum, 80 mg/kg	ASTM D2784–06.
Moisture content	pass	ASTM D2713–91.

¹ ASTM procedures are incorporated by reference in § 1065.1010. See § 1065.701(d) for other allowed procedures.

² If these two test methods yield different results, use the results from ASTM D1267–02.

³ The test fuel must not yield a persistent oil ring when you add 0.3 ml of solvent residue mixture to a filter paper in 0.1 ml increments and examine it in daylight after two minutes.

(b) In certain cases you may use test fuel not meeting the specifications in paragraph (a) of this section, as follows:

(1) You may use fuel that your in-use engines normally use, such as commercial-quality liquefied petroleum gas.

(2) You may use fuel meeting alternate specifications if the standard-setting part allows it.

(3) You may ask for approval to use fuel that does not meet the specifications in paragraph (a) of this section, but only if using the fuel would not adversely affect your ability to demonstrate compliance with the applicable standards.

(c) When we conduct testing using liquefied petroleum gas, we will use fuel that meets the specifications in paragraph (a) of this section.

(d) At ambient conditions, liquefied petroleum gas must have a distinctive odor detectable down to a concentration in air not more than one-fifth the lower flammable limit.

§ 1065.740 Lubricants.

(a) Use commercially available lubricating oil that represents the oil that will be used in your engine in use.

(b) You may use lubrication additives, up to the levels that the additive manufacturer recommends.